What is Claimed is:

1. A method of generating a template in an implantable medical device, comprising:

sensing a plurality of sensed events;

identifying events of the plurality of events having predetermined characteristics as first selected events;

generating the template from the first selected events;

identifying events of the plurality of events having the predetermined characteristics as second selected events;

determining whether the template is valid in response to the second selected events; and

updating the template from the second selected events in response to the template not being valid.

2. The method of claim 1, further comprising:

identifying events of the plurality of events having the predetermined characteristics as third selected events;

monitoring the template in response to the third selected events; and

updating the template from the third selected events in response to the monitoring.

3. The method of claim 1, wherein identifying events as first selected events and identifying events as second selected events comprises:

determining whether there are consecutive events of the plurality of events having first characteristics; and

identifying a predetermined number of events of the plurality of events subsequent to the consecutive events having second characteristics as one of first selected events and second selected events.

4. The method of claim 3, wherein the first characteristics correspond to two consecutive events that are ventricular sensed events having RR-intervals greater than a threshold interval.

5. The method of claim 3, wherein the second characteristics include a ventricular sense event other than a ventricular pace event, a ventricular sense event having an R-R interval greater than a predetermined rate, a ventricular sense event other than a first ventricular sense event immediately following a ventricular pace event, and a ventricular sense event that was immediately preceded by an atrial pace event and for which an interval between the ventricular sense event and the atrial pace event is greater than a threshold interval.

6. The method of claim 5, wherein the predetermined rate is approximately equal to 600 ms and the threshold interval is approximately equal to 100 ms.

7. The method of claim 3, further comprising:

computing a cross-match between the predetermined number of events identified as first selected events to generate cross-matches; and

determining whether a predetermined number of the generated cross-matches are within a predetermined cross-match threshold, wherein the template is generated from events of the predetermined number of events corresponding to the cross-matches determined to be within the cross-match threshold.

8. The method of claim 7, further comprising:

determining, in response to the predetermined number of the generated cross-matches not being within a predetermined cross-match threshold, whether a predetermined number of cross-match computations have failed to generate

the predetermined number of generated cross-matches that are within the predetermined cross-match threshold; and

generating a delay in response to the predetermined number of cross-match computations having failed to generate the predetermined number of generated cross-matches that are within the predetermined cross-match threshold.

9. The method of claim 3, further comprising:

determining whether RR-intervals associated with the first selected events are greater than an average RR-interval;

computing, in response to the RR-intervals associated with first selected events being greater than an average RR-interval, a cross-match between the predetermined number of events identified as first selected events to generate cross-matches; and

determining whether a predetermined number of the generated cross-matches are within a predetermined cross-match threshold, wherein the template is generated from events of the predetermined number of events corresponding to the cross-matches determined to be within the cross-match threshold.

10. An implantable medical device, comprising:

means for sensing a plurality of sensed events;

means for identifying events of the plurality of events having predetermined characteristics as first selected events;

means for generating the template from the first selected events;

means for identifying events of the plurality of events having the predetermined characteristics as second selected events;

means for determining whether the template is valid in response to the second selected events; and

means for updating the template from the second selected events in response to the template not being valid.

11. The device of claim 10, further comprising:

means for identifying events of the plurality of events having the predetermined characteristics as third selected events;

means for monitoring the template in response to the third selected events; and

means for updating the template from the third selected events in response to the monitoring.

12. The device of claim 10, wherein the means for identifying events as first selected events and the means for identifying events as second selected events comprise:

means for determining whether there are first consecutive events of the plurality of events having first characteristics; and

means for identifying a predetermined number of events of the plurality of events subsequent to the first consecutive events having second characteristics as first selected events.

13. The device of claim 12, wherein the first characteristics correspond to two consecutive events that are ventricular sensed events having RR-intervals greater than a threshold interval.

14. The device of claim 12, wherein the second characteristics include being a ventricular sense event other than a ventricular pace event, a ventricular sense event having an R-R interval greater than a predetermined rate, a ventricular sense event other than a first ventricular sense event immediately following a ventricular pace event, and a ventricular sense event that was immediately

preceded by an atrial pace event and for which an interval between the ventricular sense event and the atrial pace event is greater than a threshold interval.

15. The device of claim 14, wherein the predetermined rate is approximately equal to 600 ms and the threshold interval is approximately equal to 100 ms.

16. The device of claim 12, further comprising:

means for computing a cross-match between the predetermined number of events identified as first selected events to generate cross-matches; and

means for determining whether a predetermined number of the generated cross-matches are within a predetermined cross-match threshold, wherein the template is generated from events of the predetermined number of events corresponding to the cross-matches determined to be within the cross-match threshold.

17. The device of claim 16, further comprising:

means for determining, in response to the predetermined number of the generated cross-matches not being within a predetermined cross-match threshold, whether a predetermined number of cross-match computations have failed to generate the predetermined number of generated cross-matches that are within the predetermined cross-match threshold; and

means for generating a delay in response to the predetermined number of cross-match computations having failed to generate the predetermined number of generated cross-matches that are within the predetermined cross-match threshold.

18. The device of claim 12, further comprising:

means for determining whether RR-intervals associated with the first selected events are greater than an average RR-interval;

means for computing, in response to the RR-intervals associated with first selected events being greater than an average RR-interval, a cross-match between the predetermined number of events identified as first selected events to generate cross-matches; and

means for determining whether a predetermined number of the generated cross-matches are within a predetermined cross-match threshold, wherein the template is generated from events of the predetermined number of events corresponding to the cross-matches determined to be within the cross-match threshold.

19. A method of generating a template in an implantable medical device, comprising:

sensing a plurality of sensed events;

determining whether there are first consecutive events of the plurality of events having first characteristics;

identifying a predetermined number of events of the plurality of events subsequent to the first consecutive events having second characteristics as first selected events;

generating the template from the first selected events;

determining whether there are second consecutive events of the plurality of events having first characteristics; and

identifying a predetermined number of events of the plurality of events subsequent to the second consecutive events having second characteristics as second selected events;

determining whether the template is valid in response to the second selected events; and

updating the template from the second selected events in response to the template not being valid, wherein the first characteristics correspond to two

consecutive events that are ventricular sensed events having RR-intervals greater than a threshold interval, and the second characteristics include a ventricular sense event other than a ventricular pace event, a ventricular sense event having an R-R interval greater than a predetermined rate, a ventricular sense event other than a first ventricular sense event immediately following a ventricular pace event, and a ventricular sense event that was immediately preceded by an atrial pace event and for which an interval between the ventricular sense event and the atrial pace event is greater than a threshold interval.

20. A computer-readable medium having computer-executable instructions for performing a method, comprising:

means for sensing a plurality of sensed events;

means for identifying events of the plurality of events having predetermined characteristics as first selected events;

means for generating the template from the first selected events;

means for identifying events of the plurality of events having the predetermined characteristics as second selected events;

means for determining whether the template is valid in response to the second selected events; and

means for updating the template from the second selected events in response to the template not being valid.

21. The computer-readable medium of claim 20, wherein the means for identifying events as first selected events and the means for identifying events as second selected events comprise:

means for determining whether there are first consecutive events of the plurality of events having first characteristics; and

means for identifying a predetermined number of events of the plurality of events subsequent to the first consecutive events having second characteristics as first selected events.

22. The computer-readable medium of claim 21, wherein the first characteristics correspond to two consecutive events that are ventricular sensed events having RR-intervals greater than a threshold interval.

23. The computer-readable medium of claim 21, wherein the second characteristics include being a ventricular sense event other than a ventricular pace event, a ventricular sense event having an R-R interval greater than a predetermined rate, a ventricular sense event other than a first ventricular sense event immediately following a ventricular pace event, and a ventricular sense event that was immediately preceded by an atrial pace event and for which an interval between the ventricular sense event and the atrial pace event is greater than a threshold interval.